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A short note on Dytiscidae and Noteridae from the Archipelago of Sao Tome and Principe (Coleoptera, Dytiscidae, Noteridae)

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Keywords:

Coleoptera;
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Noteridae;
Sao Tome and Principe;
distribution.

Abstract. – The species of Dytiscidae and Noteridae collected in Sao Tome and Principe Archipelago during three different entomological surveys carried out in 2022 and 2023 are listed and the resulting fauna is discussed. A photographic image of each species collected during the three surveys is provided. The position of the collection localities on geographical maps, together with some pictures illustrating their features, are also given.

Coache A. & Shizzerotto A., 2025. – A short note on Dytiscidae and Noteridae from the Archipelago of Sao Tome and Principe (Coleoptera, Dytiscidae, Noteridae). *Faunitaxys*, 13(31) : 1 – 15.

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Introduction

The very impressive set of contributions published, first, by Bilardo & Pederzani (1978) and, subsequently, by Bilardo & Rocchi (1990, 1995, 1999, 2002, 2004, 2008, 2010, 2011; 2013; 2015) have provided a really exhaustive information on the Gabon Dytiscoidea fauna. On the contrary, very little was known about its features in the Archipelago of Sao Tome and Principe, even though it is located in the Guinea Gulf, just in front of Gabon and not very far (about 250 km) from it. Actually, only two species of Dytiscidae from the Archipelago – *Copelatus pallidus* Régimbart, 1895 and *Cybister vulneratus* Klug, 1834 – were mentioned up to now in the literature (Guignot 1959; Neve & al. 2022). The three entomological surveys, carried out in the islands of Sao Tome and Principe between 2022 and 2023 by one of the authors of this note (A. C.), contributes to reduce this gap. Suffice it to say that, during these surveys, thirteen species of Dytiscidae and two species of Noteridae, not previously recorded, were collected. Unfortunately, none of the two already known Dytiscidae settled in the Archipelago was caught during the above campaigns. Taking also them into account, it can be maintained that the Dytiscoidea fauna of the Archipelago is currently made up by fifteen species of Dytiscidae and two species of Noteridae.

Materials and methods

The specimens of Dytiscidae and Noteridae found in the archipelago of Sao Tome and Principe, during 2022 and 2023 expeditions were collected by ultraviolet (UV) light trap, aquatic net, interception traps, and mercury vapor (MV) light trap. As usual, the beetles were killed with ethyl acetate and preserved in tubes filled with 70° alcohol. Subsequently, they were individually glued on a white card stuck on an entomological pin bearing another white card indicating the locality and the date of capture together with the name of the collector. After being rehydrated in clear water, the specimens were studied, and, if necessary, dissected, by means of a S6G7 Leica stereomicroscope with led reflected light. The aedeagus of the dissected male specimens were mounted on a plastic transparent card, covered by a thin layer of DHF, and stuck on the same pin used for the insect.
The photographs were taken by Pascal Deschamps, except that of *Copelatus cf. pulchellus*, taken by Mario Toledo.

Depository

All specimens collected during the survey we report on are kept in the Microland reference collection in Aix en Provence (13) as well as in the A. Coache collection, deposited in La Brillanne (4), with the exception of one specimen of *Copelatus basifasciatus* which is kept in the Schizzerotto collection at MUSE, the science museum in Trento (Italy). In this collection are also temporarily preserved two problematic specimens of *Copelatus*, discussed here below, still under study.

Dytiscidae and Noteridae from Sao Tome and Principe Archipelago

Because of the small size of the Archipelago, the number of species of Dytiscidae and Noteridae, collected in this entomological campaign, is rather limited. Furthermore, all these species had already been recorded in Gabon (see the several contributions by Bilardo & Rocchi mentioned above and listed below in the references section) and appear to be widespread in Western Afrotropical area (Guignot 1961), with just only one possible exception.

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Saverio Rocchi (*Italia*) - https://zoobank.org/D4A6EB79-97CC-42A5-A600-EF6D9D460CA5

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Dytiscidae

Copelatus Erichson, 1832

1. ***C. nigrostriatus*** Régimbart, 1895 (14 ex.)
(Plate 1, Fig. 1)

Sao Tome Island
- Ribeira Peixe, 125 m, 25 II 2023, UV trap, 1 ex.;
idem, 08 XI 2022, UV trap, 8 ex.

Principe Island
- Porto Réal, National Park, 210 m, 28 X 2022, aquatic net, 4 ex.;
- San Antonio, Hôtel Principal, 17 m, 02 XI 2022, interception trap, 1 ex.

2. ***C. basifasciatus*** Régimbart, 1895 (16 ex.)
(Plate 1, Fig. 2)

Sao Tome Island
- Ribeira Peixe, 125 m, 8 XI 2022, UV trap, 5 ex.

Principe Island
- San Antonio, Hotel Principal, 17 m, 2 XI 2022, interception trap, 2 ex.;
- Porto Réal, National Park, 210 m, 02 XI 2022, aquatic net, 9 ex.

3. ***C. vigintisulcatus*** Régimbart, 1895 (6 ex.)
(Plate 1, Fig. 3)

Sao Tome Island
- Esperanza, 248 m, 02 IX 2023, aquatic net, 1 ex.

Principe Island
- San Antonio, Hôtel Principal, 17 m, 02 XI 2022, interception trap, 3 ex.;
idem, 29 X 2022, aquatic net, 1 ex.;
- Porto Réal, National Park, 210 m, 28 X 2022, aquatic net, 1 ex.

4. ***C. atrosulcatus*** Régimbart, 1906 (1 ex.)
(Plate 1, Fig. 4)

Sao Tome Island
- Route de San Joao de Angolarès, Rio Grande, 36 m, 09 III 2022, UV trap, 1 ex.

5. ***C.*** cf. ***pulchellus*** (Klug, 1834) (2 ex.)
(Plate 2, Fig. 5)

Sao Tome Island
- Lago Azul, carrière, 48 m, 05 XI 2022, aquatic net, 2 ex.

Cybister Curtis, 1827

6. ***C.*** (***Cybister***) ***tripunctatus*** (Olivier 1795)
ssp. ***africanus*** Laporte 1835 (6 ex.)
(Plate 2, Fig. 6)

Sao Tome Island
- Lago Azul, 48 m, 05 XI 2022, aquatic net, 5 ex.

Principe Island
- Bela Vista, 57 m, 26 VIII 2023, UV trap, 1 ex.;

7. ***C.*** (***Megadytoides***) ***marginicollis*** Boheman, 1848 (1 ex.)
(Plate 2, Fig. 7)

Principe Island
- Bela Vista, 57 m, 26 VIII 2023, UV trap, 1 ex.

Hydaticus Leach, 1817

8. ***H.*** (***Prodaticus***) ***matruelis*** Clark, 1864 (5 ex.)
(Plate 2, Fig. 8)

Principe Island
- San Antonio, Hôtel Résidence, 10 m, 30 X 2021, UV light trap, 1 ex.;
idem, 10 m, 01 XI 2022, interception trap, 1 ex.;
- Bela Vista, 57 m, 28 VIII 2023, UV trap, 1 ex.;
- Sundy, 206 m, 30 X 2022, aquatic net, 1 ex.;
- Terreiro Velho, 165 m, 22 XI 2020, aquatic net, 1 ex.

9. ***H.*** (***Prodaticus***) ***servillianus*** Aubé, 1838 (3 ex.)
(Plate 3, Fig. 9)

Sao Tome Island
- Lago Azul, 48 m, 05 XI 2022, aquatic net, 3 ex.

Rhantaticus Sharp, 1882

10. ***R. congestus*** (Klug, 1833) (6 ex.)
(Plate 3, Fig. 10)

Sao Tome Island
- Lago Azul, 48 m, 05 XI 2022, aquatic net, 6 ex.

Hydroglyphus Motschulsky, 1853

11. ***H. dakarensis*** (Régimbart, 1895) (24 ex.)
(Plate 3, Fig.11)

Sao Tome Island
- Lago Azul, 48 m, 05 XI 2022, UV trap, 24 ex.

Hydrovatus Motschulsky, 1853

12. ***H. acuminatus*** Motschulsky, 1860 (1 ex.)
(Plate 4, Fig. 12)

Sao Tome Island
- Lago Azul, 48 m, 05 XI 2022, UV trap, 1 ex.

Hyphydrus Illiger, 1802

13. ***H. caryerus*** Guignot, 1942 (1 ex.)
(Plate 4, Fig. 13)

Sao Tome Island
- Lago Azul, 48 m, 05 XI 2022, UV trap, 1 ex.

Noteridae

Neohydrocoptus Satô, 1972

14. ***N. koppi*** (Whencke. 1883)
ssp. ***gabonicus*** Bilardo & Pederzani, 1978 (1 ex.)
(Plate 4, Fig. 14)

Principe Island
- Sundy, 206 m, 30 X 2022, UV trap, 1 ex.

Canthydrus Sharp, 1882

15. ***C. ugandae*** J. Balfour-Browne, 1939 (1 ex.)
(Plate 4, Fig. 15)

Sao Tome Island
- San Nicolau waterfall, 950 m, 26 X 2022, UV trap, 1 ex.

Discussion

Before discussing this possible exception, it is worth drawing attention to the presence of *Copelatus nigrostriatus* Régimbart, 1895 in San Tome and Principe. This species was originally described on specimens collected in Gabon on the Crystal Mountains. Surprisingly, however, Bilardo & Rocchi (2015: 8) maintain that, in their long lasting surveys throughout Gabon, including the Crystal Mountains, they were not able

to capture any specimen surely belonging to it. Therefore those collected in Sao Tome and Principe has to be considered as confirm that the species is still living in the Gabonese geographic area.

The only possible taxonomic novelty observed among the Dytiscidae collected in the Archipelago,is represented by a couple of specimens (1 ♂ and 1 ♀) of a *Copelatus* bearing a habitus quite similar to that of *C. pulchellus* (Klug, 1834) (Plate 2, Fig. 5) as redescribed by Guignot (1961) and, more recently, by Ranarilalatiana et *al.* (2019) who studied the relevant type material. However, their features do not properly fit those of *C. pulchellus*. Actually, the size of the two specimens from Sao Tome and Principe is definitely larger than the relevant upper bounds reported in the literature for *C. pulchellus*. Moreover, the shape of the penis of the ♂ specimen from the Archipelago seems quite different from that of *C. pulchellus* figured in Ranarilalatiana et *al.* (2019), as like from the one rather roughly drawn by Guignot (1961) and that, definitely more accurate, by Bilardo and Pederzani (1972). To further complicate the matter, all the sketches in these publications appear quite different from each other.

This being the case, we are unable to escape from uncertainty. It might be either that *C. pulchellus* is a dramatically polymorphic species or that the Sao Tome and Principe specimens belong to a new undescribed entity. It is precisely because of this uncertainty that we decided to denote our findings as *Copelatus* prope *pulchellus*, that is to say as a taxon close to, but, seemingly, not identical with *C. pulchellus* as interpreted by the authors mentioned above. Quite obviously, we will try to solve this question in the next future.

To complete the description of the Dytiscoidea fauna of the Sao Tome and Principe Archipelago and the report of the results of the entomological campaign carried out in it, we present here below two maps and a set of pictures illustrating the geographical position of the localities where the different species and specimens listed above were caught and their environmental features.

Acknowledgments

First, we thank all the political and administrative authorities of the Sao Tome and Principe Archipelago who provided us with the authorizations needed to conduct the surveys reported in this papers. Then, we must emphasize that we are in debt with the Microland association, as well as all its members present during these expeditions in the archipelago. We are also gratefully to Martin Just for entrusting us with his material for study. Finally, we are deeply indebted with Pascal Deschamps for the photographs appearing in the relevant plates intended to illustrate the species collected in the Archipelago, as well as with Mario Toledo who photographed *Copelatus* cf. *pulchellus* and kindly accepted to read and comment a preliminary version of this paper.

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Rédaction de l'article. – AC & AS
Relecture de l'article. – AC & AS
Travail bibliographique. – AC & AS
Travail de terrain. – AC
Etude du Matériel. – AS
Auteur des figures. – AC

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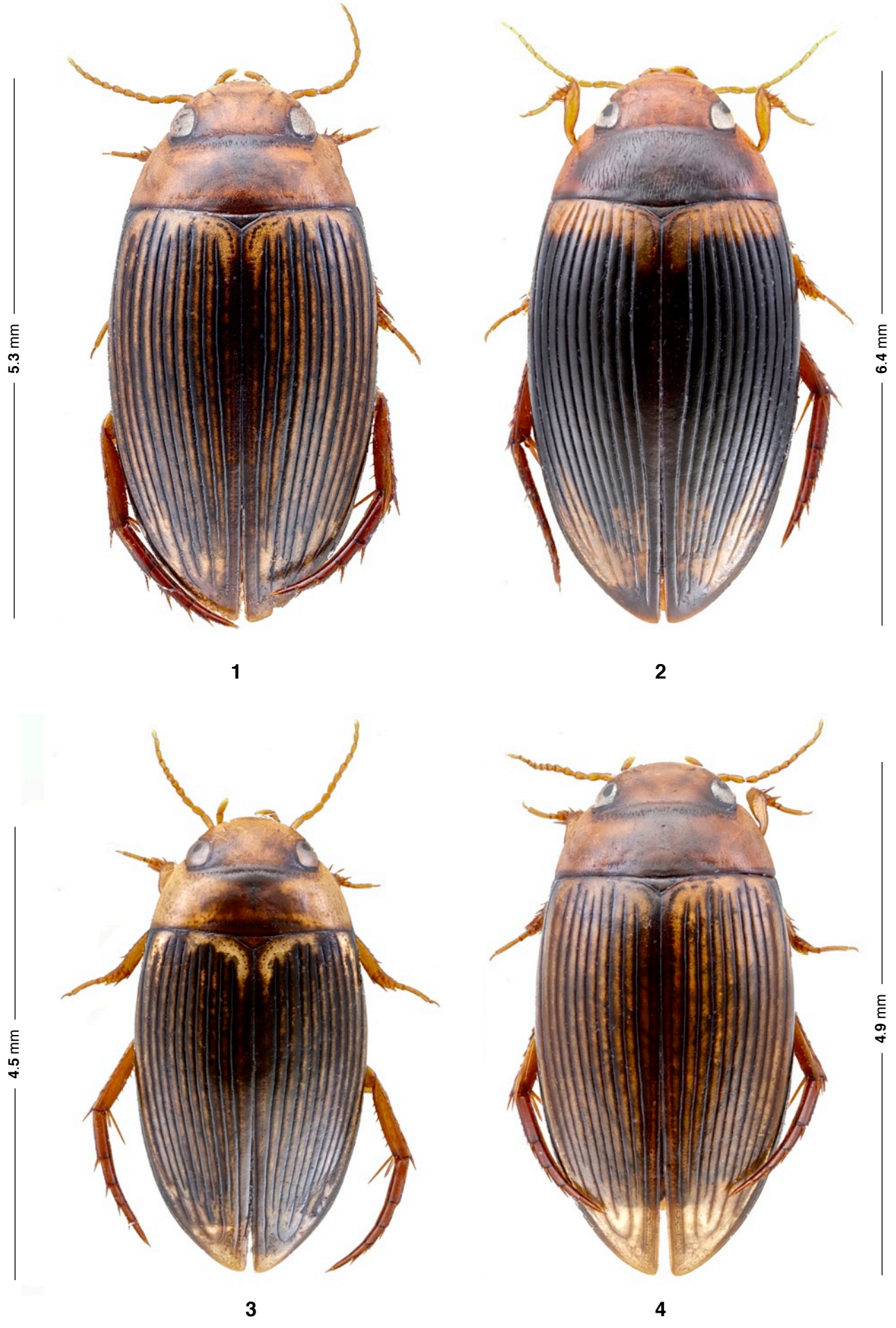

Planche 1

1. ***Copelatus nigrostriatus***. **2**. ***Copelatus basifasciatus***. **3**. ***Copelatus vigintisulcatus***. **4**. ***Copelatus atrosulcatus***.

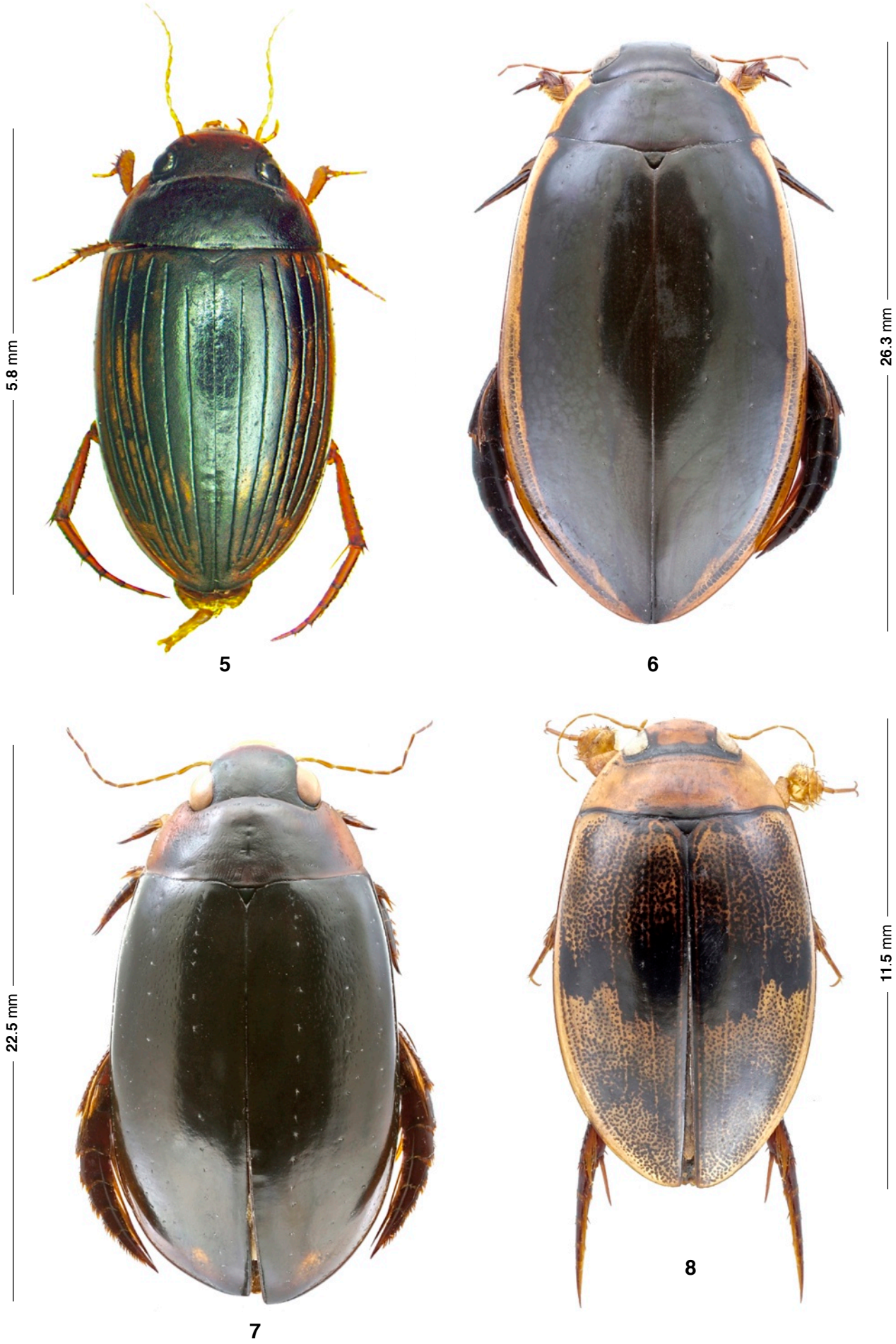

Planche 2

5. ***Copelatus*** cf. ***pulchellus***. **6**. ***Cybister tripunctatus*** ssp. ***africanus***. **7**. ***Cybister marginicollis***. **8**. ***Hydaticus matruelis***.

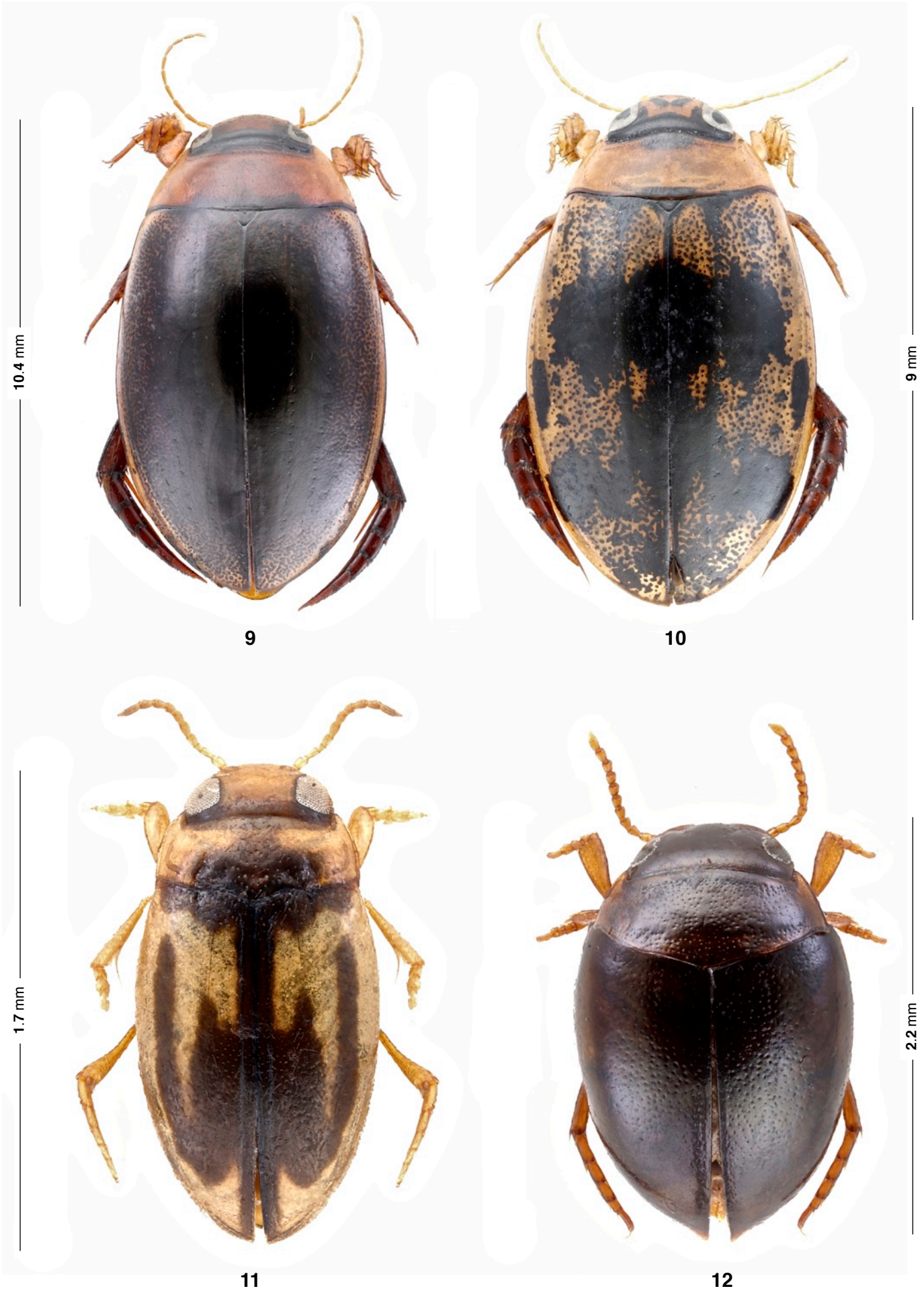

Planche 3

9. ***Hydaticus servillianus***. **10**. ***Rhantaticus congestus***. **11**. ***Hydroglyphus dakarensis***. **12**. ***Hydrovatus acuminatus***.

Planche 4

13. ***Hyphydrus caryerus***. **14**. ***Neohydrocoptus koppi***. **15**. ***Canthydrus ugandae***.

SAO TOMÉ & PRINCIPE
10 km
Copelatus basinotatus
Copelatus nigrostriatus
Copelatus vigintisulcatus
Copelatus atrosulcatus
Copelatus cf. pulchellus
Cybister tripunctatus africanus
Cybister marginicollis
Pedra da Galé
7°25
Ile Bombom
Pointe Banana
Pointe Marmita
1°40
Principe
Santo Antonio
Praia Caixao
948
Pic de Principe
Pointe Café
Ile Caroço
1°30
6°30
6°40
GOLFE DE GUINÉE
Pointe Cruzero
Micolo
Ile des Cabras
Guadalupe
Conde
Neves
Santo Amaro
SAO TOMÉ
0°20
Madalena
Pedras Tinhosas
Bombom
Pantufo
Trindade
Almas
Caixao Grande
Santa Catarina
2024
Pic Gago Couthinho
1630
Pic de Ana Chaves
Santana
1403
Cabumbé
Ribeira Afonso
0°10
Sao Tomé
Santa Cruz dos Angolares
Baie de Santa Cruz
OCÉAN ATLANTIQUE
Praia Grande
Sete Pedras
N
Pointe Lama Porco
0°
Ile Gago Coutinho
Ecuador
6°30
6°40
6°50
2000 m
1500 m
1000 m
500 m
200 m
100 m
0 m

Map 1.

SAO TOMÉ & PRINCIPE
10 km
Hydaticus matruelis
Hydaticus servillianus
Rhantaticus congestus
Hydroglyphus dakarensis
Hydrovatus acuminatus
Hyphydrus caryerus
Neohydrocptus koppi
Canthydrus ugandae
Pedra da Galé
7°25
Ile Bombom
Pointe Banana
Pointe Marmita
1°40
Principe
Santo Antonio
Praia Caixao
948
Pic de Principe
Pointe Café
Ile Caroço
1°30
6°30
6°40
GOLFE DE GUINÉE
Pointe Cruzero
Micolo
Ile des Cabras
Conde
Guadalupe
Neves
Santo Amaro
SAO TOMÉ
0°20
Madalena
Pedras Tinhosas
Bombom
Pantufo
Trindade
Almas
Caixao Grande
Santa Catarina
2024
Pic Gago Couthinho
1630
Pic de Ana Chaves
Santana
1403
Cabumbé
Ribeira Afonso
0°10
Sao Tomé
Santa Cruz dos Angolares
Baie de Santa Cruz
OCÉAN ATLANTIQUE
Praia Grande
Sete Pedras
N
Pointe Lama Porco
0°
Ile Gago Coutinho
Ecuador
6°30
6°40
6°50
2000 m
1500 m
1000 m
500 m
200 m
100 m
0 m

Map 2.

Fig. **16**. Mare at Lago Azul in the northwestern area of Sao Tome Island.

Fig. **17**. Interception trap, San Antonio, Principe Island.

Fig. **18**. Interception trap in San Antonio, Principe Island.

Fig. **19**. Light trap in Sundy, Principe Island.

Fig. **20**. Puddles in Porto Real, Principe Island.

Fig. **21**. Light trap in Ribeira Peixe in the pouringrain.

Fig. **22**. Terreiro Velho Road, Principe Island.

Fig. **23**. Trap in Bela Vista, Principe Island.

Fig. **24**. Light trap in Sundy, Principe Island.

Fig. **25**. River at Ribeira Peixe, Sao Tome Island.

Fig. **26**. San Nicolau waterfall, Sao Tome Island.

Résumé

Coache A. & Shizzerotto A., 2025. – Note sur les Dytiscidae et Noteridae de l'Archipel de Sao Tomé-et-Principe (Coleoptera, Dytiscidae, Noteridae). *Faunitaxys*, 13(31) : 1 – 15.

Nous présentons les résultats de 3 expéditions sur l'Archipel de Sao Tomé-et-Principe concernant les familles Dytiscidae et Noteridae (la Famille des Noteridae est citée pour la première fois sur l'archipel) que nous avons rencontrées tout au long de ces expeditions. Nous présentons les localités des prélèvements sur les cartes géographiques et tous les specimens rencontrés en photographies.

Mots-clés. – Coleoptera, Dytiscidae, Noteridae, Sao Tomé-et-Principe, distribution.

Faunitaxys

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Illustration de la couverture :
River at Bela Vista, Principe Island.

Crédits:

Alain Coache : Fig. 16-26 & couverture.
Pascal Deschamps : Fig. 1-4 & 6-15.
Mario Toledo : Fig. 5.

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